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## TCT@ACC-i2: Invasive and Interventional Cardiology

### THE IMPACT OF NON-FIBROATHEROMA LESION PHENOTYPE ON LONG-TERM CLINICAL OUTCOMES: A SUBSTUDY ANALYSIS FROM PROSPECT

Moderated Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Intravascular Imaging: IVUS and OCT

Abstract Category: 38. TCT@ACC-i2: Intravascular Imaging and Physiology

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Authors: Tomotaka Dohi, Gary Mintz, John McPherson, Bernard De Bruyne, Naim Farhat, Alexandra Lansky, Roxana Mehran, Giora Weisz, Ke Xu, Gregg Stone, Akiko Maehara, Cardiovascular Research Foundation, New York, NY, USA, Columbia University Medical Center, New York, NY, USA

**Background:** While fibroatheromas (FA) are known to be clinically unstable, the impact of non-FA lesion phenotype on clinical outcomes has not been studied.

**Methods:** In the PROSPECT, pts presenting with acute coronary syndrome underwent 3-vessel grayscale and virtual histology intravascular ultrasound (VH-IVUS) after successful percutaneous intervention for culprit lesions. Pts were divided into those who had only non-FA phenotype (pathological intimal thickening [PIT], fibrotic, and/or fibrocalcific lesions) vs those who had at least 1 non-culprit FA and followed for 3 yrs.

**Results:** Of 609 patients, 67 (11.0%) pts had only non-FA lesion phenotype. Pts with only non-FA tended to be younger and more often female, have fewer non-culprit lesions and less overall plaque burden and necrotic core, and fewer non-culprit lesion major adverse cardiac events (MACE) compared to pts with at least 1 FA (Table). In the Cox hazards model, absence of a FA was a significant predictive of a lower 3-yr non-culprit-MACE (HR, 0.23; 95%CI, 0.06 to 0.95). Among 2880 non-culprit lesions, 39.8% were non-FA phenotype: 1042 PIT, 72 fibrotic, and 33 fibrocalcific). On a lesion level the rate of 3-yr non-culprit-MACE occurred in only 7 non-FA lesions (0.7%) vs 43 FA lesions (2.7%,  $p < 0.001$ ).

**Conclusion:** Non-FA lesions are clinically stable and are not associated with clinical events at 3 yrs of follow-up.

Table. Clinical characteristics in non-FA versus FA groups

	Non FA group (n=67)	FA group (n=542)	p-value
Age (yrs)	56.4 (47.5, 66.6)	58.7 (50.8, 67.5)	0.11
Female	32.8%	22.3%	0.06
IVUS NC lesions	3.0 (2.0, 5.0)	5.0 (4.0, 6.0)	<0.001
Plaque rupture	7.5%	16.2%	0.06
% Plaque volume	47.2 (44.4, 49.6)	49.3 (46.8, 52.1)	<0.01
Necrotic core (%)	4.0 (2.4, 6.0)	13.1 (8.9, 18.3)	<0.001
Non-culprit lesion related event in 3 years			
MACE, % (n)	3.7% (2)	12.9% (64)	0.03
MI, % (n)	0% (0)	1.3% (6)	N/A